REMARKS

Applicant believes that, other than the fee required for the request for extension of time for three months filed herewith, no additional fee is due with this response. However, if any additional fee is due, please charge our Deposit Account No. 50-0591, under Order No. 17133/002002 from which the undersigned is authorized to draw. Please reconsider the application in view of the above amendments and the following remarks.

Applicants thank the Examiner for carefully considering this application.

Applicants have amended Claim 31 to set forth a definite temperature at or below which the process is completed to make the carbon alloy product claimed therein. All pending claims that have not been withdrawn from consideration depend from claim 31 or from one or more intermediate claims that depend from claim 31. Applicants respectfully traverse the rejection of claims 31-72 as anticipated, 102 (b) by or in the alternative obvious, 103(a), over Zondlo et al. 5955375. Applicants traverse the assertion in the Office Action that although the process of Zondlo is not shown to be the same, no differences are seen in the product of Zondlo and the product of Applicants claims. It is respectfully submitted that the Zondlo product is graphite and/or contains primarily or at least a dominant portion as graphite. The graphite nature of the Zondlo product should be seen and understood from the Zondlo patent. The claimed product is a carbon alloy product, not graphite, and this is different from the Zondlo product. It is respectfully submitted that scientific literature indicates that the uniform single form of bonding in graphite is different from carbon alloys where "...carbons with different hybrid orbitals account as different components." (*See, CARBON ALLOYS, Novel Concept to Develop Carbon Science and Technology*, Yasuda et al., at page 9 (2003). [IDS REF. B9] As additional support of the difference of the products, Applicants have submitted herewith a Declaration under 37 CFR 1.132 by Siddhartha Gaur, Ph.D., one of the inventors.

Moreover, Applicants, Claim 31 has been amended to more clearly claim the invention in terms of a temperature at or below which the process takes place. This amendment is supported in the specification as the upper end off the range of about 700°C - 1300°C for the highest temperature for any of the process steps. No new matter is added and no new search

should be required. This amendment also avoids ambiguity of the term melting point of carbon, and whether that is the point at which carbon begins "melt" locally by introducing stacking faults in the bonding structure or where carbon begins to transition to a *turbostatic* condition, or the temperature at which all of the carbon becomes fluid. In any event, the applicant's process for making the claimed product is only at temperatures up to temperatures at which there is no sufficient graphite formation so that the product of Zondlo would not result. The assertion in the office action that no differences are seen in the product is respectfully overcome by this showing by Applicants that the products are different, one is a graphitized product and the other is a carbon alloy product. A sufficient amount of graphite for the purposes of Zondlo's product must be created at high temperatures, understood to be over 1300°C. There is a distinct difference between graphite products that have a parallel stacked plate structure (slidable between plates to form and oil like structure) and a "carbon alloy" that has a plurality of different bonding modes or stated another way in Applicants' carbon alloy product "carbon with different hybrid orbitals account as different components." There is no showing in the Office action that the product claimed by Applicants would be obvious in view of the expressed desire for graphitization in Zondlo. Those skilled in the art would not find it obvious to use lower temperatures to obtain a different products, namely products without sufficient graphitization for the purposes of Zondlo The differences in the Zondlo product, the differences in the process, and the differences in the motivation clearly indicate that Applicants' invention is not obvious.

For at least one or more of the foregoing reasons the rejection of claims 31-72 (as amended) as anticipated by or in the alternative obvious over Zondlo et al. 5955375 has been traversed. Reconsideration and withdrawal of the rejection are respectfully requested.

Applicants respectfully traverse the rejection of claims 31-72 as anticipated by or in the alternative obvious over Ubbelohde 4213956 (Ubbelohde). Applicants have amended Claim 31 to set forth a definite temperature at or below which the process is completed to make the carbon alloy product claimed therein. All pending claims that have not been withdrawn from consideration depend from claim 31 or from one or more intermediate claims that depend from claim 31. Applicant respectfully traverses the rejection of claims 31-72 as anticipated, 102 (b) by or in the alternative obvious, 103(a), over Ubbelohde. Applicants traverse the assertion in the Office Action that although the process of Ubbelohde is not shown to be the same, no differences are seen in the product of Ubbelohde and the product of Applicants claims. It is

respectfully submitted that the Ubbelohde product is a graphitized product. The graphite nature of the Morgan product should be seen and understood from the Ubbelohde patent. The claimed product is a carbon alloy product, not graphite, and this is different from the Ubbelohde product. All the process steps have not been shown to be the disclosed by Ubbelohde. As additional support for showing the difference of the products, Applicants have submitted herewith a Declaration under 37 CFR 1.132 by Siddhartha Gaur, Ph.D., one of the inventors.

Moreover, Applicants' Claim 31 has been amended to more clearly claim the invention in terms of a temperature of 1300°C at or below which the process takes place. This amendment is supported in the specification. No new matter is added and no new search should be required. A sufficient amount of graphite for the purposes of Ubbelohde's product must be created at high temperatures indicated as an example a range of 1000°C - 2000°C. The temperature for forming graphite is known to be above the temperature range of the Ubbelohde. Hence merely disclosing a range that covers both useful temperatures and not useful temperatures, must never-the-less be interpreted as disclosing to one skilled in the art temperatures that are not known to be wrong or inoperable for obtaining the clearly state desired result, namely "to more completely graphitize the composition." Thus the only temperature in the range specified that will work for graphitization is above about 1300°C to 2000°C, will provide sufficient graphitization in the 1000°C – 1300°C range. Thus, the range that will be understood to be usable by those skilled in the art does not overlap with Applicants processing temperature below about 1300°C.

The Ubbelohde product is graphitized carbon, the Applicant's product is one formed below the temperature at which sufficient graphite forms, such that the resulting product is clearly different. There is no showing that the product of applicant would be obvious in view of the differences in the Ubbelohde product and differences in the Ubbelohde process. Applicants have amended Claim 31 and respectfully traverse the rejection of claims 31-72 as anticipated by or in the alternative obvious over Ubbelohde. Reconsideration and withdrawal of the rejection are respectfully requested.

Applicants respectfully traverse the rejection of claims 31-72 as anticipated by or in the alternative obvious over Morgan 3867499 (Morgan). Applicants have amended Claim 31 to set forth a definite temperature at or below which the process is completed to make the carbon

alloy product claimed therein. All pending claims that have not been withdrawn from consideration depend from claim 31 or from one or more intermediate claims that depend from claim 31. Applicant respectfully traverses the rejection of claims 31-72 as anticipated, 102 (b) by or in the alternative obvious, 103(a), over Morgan. Applicants traverse the assertion in the Office Action that although the process of Morgan is not shown to be the same, no differences are seen in the product of Morgan and the product of Applicants claims. It is respectfully submitted that the Morgan product is a graphitized product. The graphite nature of the Morgan product should be seen and understood from the Morgan patent. The claimed product is a carbon alloy product, not graphite, and this is different from the Morgan product. All the process steps have not been shown to be the disclosed by Morgan. As additional support for showing the difference of the products, Applicants have submitted herewith a Declaration under 37 CFR 1.132 by Siddhartha Gaur, Ph.D., one of the inventors.

Moreover, Applicants' Claim 31 has been amended to more clearly claim the invention in terms of a temperature at or below which the process takes place. This amendment is supported in the specification. No new matter is added and no new search should be required. This amendment also avoids ambiguity of the term melting point of carbon, and whether that is the point at which carbon begins "melt" locally by introducing stacking faults in the bonding structure or where carbon begins to transition to a *turbostatic* condition, or the temperature at which all of the carbon becomes fluid. In any event, the applicants' process for making the claimed carbon alloy product is only at temperatures up to temperatures at which there is no sufficient graphite formation for the product of Morgan. The assertion in the office action that "no differences are seen" is deemed to be unsupported and in any event is respectfully overcome by this showing by Applicants that the products are different. A sufficient amount of graphite for the purposes of Morgan's product must be created at high temperatures indicated to be "above about 1,800°C." and by heating to "1,800 °C – 3,000°C. The Morgan product is graphitized carbon, the Applicant's product is one formed below the temperature at which sufficient graphite forms, such that the resulting product is clearly different. There is no showing that the product of applicant would be obvious in view of the differences in the Morgan product and differences in the Morgan process. For At least one or more of the foreging reasons Applicants respectfully traverse the rejection of claims 31-72 as anticipated by or in the

alternative obvious over Morgan 3867499. Reconsideration and withdrawal of the rejection are respectfully requested.

Applicant believes this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 17133/002002).

Dated:

Respectfully submitted,

By

John W. Montgomery
Registration No.: 31,124
OSHA · LIANG LLP
1221 McKinney St., Suite 2800
Houston, Texas 77010
(713) 228-8600
(713) 228-8778 (Fax)
Attorney for Applicant

Attachments

Docket No.: 17133/002002
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Gaur et al.

Application No.: 10/824,263

Confirmation No.: 6517

Filed: April 13, 2004

Art Unit: 1754

For: CARBON ALLOY PRODUCTS AND A PROCESS FOR THEIR PRODUCTION

Examiner: Not Yet Assigned

DECLARATION OF SIDDHARTHA GAUR IN SUPPORT OF RESPONSE TO OFFICE ACTION MAILED AUGUST 8, 2007

MS AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In support of the response to the Office Action dated August 8, 2007, please reconsider this application in view of the declaration of the inventor, Siddhartha Gaur, Ph.D.

In connection with the Applicant's Response to the Office Action issued on August 8, 2007, this declaration sets forth the pertinent facts indicating that the product made by the process in Claims 31-72 of U.S. Patent Application 10/824,263 entitled "CARBON ALLOY PRODUCTS AND A PROCESS FOR THEIR PRODUCTION" filed April 13, 2004, is different from the products disclosed in the art cited in the Office Action issued on August 8, 2007.

1. I, Siddhartha Gaur, Ph.D. have received the B.S. Degree (1983) chemical engineering from Aligarth University, India, the M.S degree (1993) in environmental engineering from the Colorado School of Mines, Golden Colorado, and the Ph.D. degree (1989) in chemical engineering from the Indian Institute of Technology, New Delhi, India.

2. I, Siddhartha Gaur, Ph.D., am a listed co-inventor on U.S. Patent Application 10/824,263 entitled "CARBON ALLOY PRODUCTS AND A PROCESS FOR THEIR PRODUCTION" filed April 13, 2004.

3. I, Siddhartha Gaur, Ph.D., am familiar with the process of graphitization of carbon and the scientific literature indicates that, other than inconsistent bond breakage and random bond formations, the initial stages of graphitization occur at temperatures above 1300°C and higher.

4. I, Siddhartha Gaur, Ph.D., am familiar with the process of graphitization of carbon and the scientific literature indicates that the uniform single form of bonding in graphite is different from carbon alloys where "...carbons with different hybrid orbitals account as different components." (*See, CARBON ALLOYS, Novel Concept to Develop Carbon Science and Technology*, Yasuda et al., at page 9 (2003). [IDS REF. B9]

5. I, Siddhartha Gaur, Ph.D., have reviewed the patent to Zondlo et al. 5955375 (Zondlo et al.) that was cited in the Office Action dated August 8, 2007, and have determined that the product produced by the method described and explained by Zondlo et al. will be a graphite product, produced by a process that requires graphitization, and it will therefore be a different product from the carbon alloy product produced and claimed according to the methods of Claims 31-72 of our U.S. Patent Application 10/824,263 entitled "CARBON ALLOY PRODUCTS AND A PROCESS FOR THEIR PRODUCTION."

6. I, Siddhartha Gaur, Ph.D. have reviewed the patent to Ubbelohde 4213956 (Ubbelohde) that was cited in the Office Action dated August 8, 2007 and have determined that the product produced by the method described and explained by Ubbelohde will be a graphite product, produced by a process that requires graphitization, and it will therefore be a different product from the carbon alloy product produced and claimed according to the methods of Claims 31-72 of our U.S. Patent Application 10/824,263 entitled "CARBON ALLOY PRODUCTS AND A PROCESS FOR THEIR PRODUCTION."

7. I, Siddhartha Gaur, Ph.D., have reviewed the patent to Ubbelohde and have further determined on information and belief that upon reading the disclosure by Ubbelohde, at column 6 lines 548-56, as follows:

> "In yet another step in the method of the invention the composition containing well oriented graphite crystallites in a carbon matrix, after being subjected to pressure to orient yet further the graphite crystallites and increase the density of the composition, may be heated to high temperature e.g. to a temperature of 1000 °C. to 2000 °C. to more completely graphitise the carbonaceous matrix to improve the electrical properties of the composition."

It is believed that those of ordinary skill in the art to which this invention is directed will understand the foregoing to mean that further graphitization must occur in this step and thus the temperature that is within the range indicated by Ubbelohde (1000 °C. to 2000 °C.) must actually be at or above 1300 °C. (not at 1000 °C. – below 1300 °C.), otherwise sufficient graphitization should not occur as it is required to do by Ubbelohde.

8. I, Siddhartha Gaur, Ph.D., have reviewed the patent to Morgan 3867499 (Morgan) that was cited in the Office Action dated August 8, 2007 and have determined that the product produced by the method described and explained by Morgan will be a graphite product, produced by a process that requires graphitization, and it will therefore be a different product from the carbon alloy product produced and claimed according to the methods of Claims 31-72 of our U.S. Patent Application 10/824,263 entitled "CARBON ALLOY PRODUCTS AND A PROCESS FOR THEIR PRODUCTION."

I, Siddhartha Gaur, Ph.D., hereby declare that all statements made herein of my own knowledge are true; all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Signed this day 08, of February 08.

Siddhartha Gaur, Ph.D.